

VOLUME 39 CONTENTS

NUMBER 1

Foreword	1	Ave atque Vale
	3	H. G. E. Wilson, President, The British Occupational Hygiene Society, 1994-1995
S. KUMAGAI and I. MATSUNAGA	7	Models describing variation of short-term exposure levels of two chemicals
I. KULMALA	21	Numerical simulation of the capture efficiency of an unflanged rectangular exhaust opening in a coaxial air flow
M. J. FORREST, A. M. JOLLY, S. R. HOLDING and S. J. RICHARDS	35	Emissions from processing thermoplastics
M. VAN TONGEREN, H. KROMHOUT and P. SWUSTE	55	A protocol for systematic workplace investigation in the rubber manufacturing industry
E. SCOBIE and J. A. GROVES	63	An investigation of the composition of the vapour evolved from aqueous glutaraldehyde solutions
N. E. CLARK, D. K. VERMA and J. A. JULIAN	79	Determination of the variability in elemental composition of asbestos fibres by analytical transmission electron microscopy
J. BIGNON, P. BROCHARD, R. BROWN, J. M. G. DAVIS, V. VU, G. GIBBS, M. GREIM, G. OBERDÖRSTER and P. SÉBASTIEN	89	Assessment of the toxicity of man-made fibres. A final report of a workshop held in Paris, France, 3-4 February 1994
M. H. FULEKAR and M. M. ALAM KHAN	107	Occupational exposure to dust in slate pencil manufacture
Short Communication S. K. DANGWAL and S. MITHBAVKAR	115	A spectrophotometric method of determination of endosulfan (thiodan) in air
Letters to the Editor H. G. E. WILSON	121	Health at work
J. DENNIS and S. MORTAZAVI	123	Methods to control occupational exposure of welders
C. L. PACKHAM	125	Setting limits on occupational skin exposure to chemical substances
Book Reviews P. ILLING	127	<i>Patty's Industrial Hygiene and Toxicology (4th Edn), Volume 2, Part C.</i> Edited by G. D. CLAYTON and F. E. CLAYTON
F. J. C. ROE	128	<i>ECETOC Technical Report No. 59: Testing for Worker Protection</i>
E. KING	129	<i>Health and Safety Commission. Annual Report 1992/93. Statistical Supplement</i>
R. E. THORNTON	130	<i>Environmental Health Criteria 150: Benzene. First Draft.</i> World Health Organization

Contents

C. VEYS	131	<i>Practical Occupational Medicine</i> . By A. SEATON, R. AGIUS, E. McCLOY and D. D'AURIA
R. NIVEN	133	<i>Practical Occupational Medicine</i> . By A. SEATON, R. AGIUS, E. McCLOY and D. D'Auria

NUMBER 2

R. C. BROWN, G. H. PIGOTT and I. ALEXANDER	135	Editorial: Classification of MMMF
B. SCHEEPER, H. KROMHOUT and J. S. M. BOLEIJ	141	Wood-dust exposure during wood-working processes
A. THORPE and R. C. BROWN	155	An improved design for the dust extraction system of orbital sanders used on wood
N. PLATO, S. KRANTZ, L. ANDERSSON, P. GUSTAVSSON and L. LUNDGREN	167	Characterization of current exposure to man-made vitreous fibres (MMVF) in the prefabricated house industry in Sweden
H. J. GITELMAN, F. R. ALDERMAN, M. KURS-LASKY and H. E. ROCKETTE	181	Serum and urinary aluminium levels of workers in the aluminium industry
M. NIEUWENHUIJSEN, C. P. SANDIFORD, D. LOWSON, R. D. TEE, K. M. VENABLES and A. J. NEWMAN TAYLOR	193	Peak exposure concentrations of dust and flour aeroallergen in flour mills and bakeries
D. L. EVANS	203	Radon—a regional electricity company approach to assessment and control
M. R. FLYNN and B. LJUNGQVIST	211	A review of wake effects on worker exposure
J. CUTHBERT and J. GROVES	223	The measurement of airborne glutaraldehyde by high-performance liquid chromatography
T. A. SMITH and M. MASHINGAIDZE	235	Study of the acute human health effects of intermediates in the synthesis of sodium cromoglycate
Meeting Report A. A. DOST	241	A European meeting held to discuss dermal exposure monitoring and related issues, Brussels, Belgium, 21–23 June 1994
Short Communications S. MEREDITH and C. McDONALD	257	Surveillance systems for occupational disease
Y. MATSUMURA	261	Industrial hygiene activities in Japan
Book Reviews C. A. VEYS	265	<i>HSE Investigation of Leukaemia and Other Cancers in the Children of Male Workers at Sellafield (Main Report) and Addendum to Main Report. Review of Results published in October 1993</i>

Contents

J. W. CHERRIE	268	<i>Patty's Industrial Hygiene and Toxicology (3rd Edn), Volume 3, Part A. Theory and Rationale of Industrial Hygiene Practice: The Work Environment.</i> Edited by R. L. HARRIS, L. J. CRAWLEY and L. V. CRAWLEY
C. D. MONEY	269	<i>Handbook of Health Hazard Control in the Chemical Process Industry.</i> By S. LIPTON and J. LYNCH
D. HUGHES	270	<i>Individual Monitoring of Ionising Radiation: The Impact of Recent ICRP and ICRU Publications. Proceedings of a Workshop held in Villigen, Switzerland, 5-7 May 1993.</i> Edited by H. G. MENZEL, T. O. MARSHALL, C. WERNLI and M. VARMA
F. J. C. ROE	271	<i>IARC Monographs on the Evaluation of Carcinogenic Risk to Humans: Beryllium, Cadmium, Mercury and Exposures in the Glass Manufacturing Industry, Volume 58</i>
News Item	273	Advanced Course in Occupational and Environmental Epidemiology: Principles of Exposure Assessment
Erratum	274	

NUMBER 3

A. T. GILLIES	275	Obituary: Wilfred Alan Bloor, 1915-1993—his working life in occupational hygiene
M. R. FLYNN, M.-M. CHEN, T. KIM and P. MUTHEDATH	277	Computational simulation of worker exposure using a particle trajectory method
M. J. NIEUWENHUIJSEN, D. LOWSON, K. M. VENABLES and A. J. NEWMAN TAYLOR	291	Correlation between different measures of exposure in a cohort of bakery workers and flour millers
M. J. NIEUWENHUIJSEN, D. LOWSON, K. M. VENABLES and A. J. NEWMAN TAYLOR	299	Flour dust exposure variability in flour mills and bakeries
M. VANHOORNE, A. DE ROUCK and D. DE BACQUER	307	Epidemiological study of eye irritation by hydrogen sulphide and/or carbon disulphide exposure in viscose rayon workers
M. G. MÉNACHE, F. J. MILLER and O. G. RAABE	317	Particle inhalability curves for humans and small laboratory animals
R. QUINLAN, G. KOWALCZYK, K. GARDINER, I. A. CALVERT, K. HALE and S. T. WALTON	329	Polycyclic aromatic hydrocarbon exposure in coal liquefaction workers: the value of urinary 1-hydroxypyrene excretion in the development of occupational hygiene control strategies
B. E. MOEN, B. E. HOLLUND, M. BERNTSEN, R. FLO, K. R. KYVIK and T. RIISE	347	Exposure of the deck crew to carcinogenic agents on oil product tankers
V. L. ROGGLI	363	Malignant mesothelioma and duration of asbestos exposure: correlation with tissue mineral fibre content
S. FAIRHURST	375	The Uncertainty Factor in the setting of Occupational Exposure Standards

Contents

J. W. CHERRIE and A. ROBERTSON	387	Biologically relevant assessment of dermal exposure
Book Reviews R. M. AGIUS	393	<i>Patty's Industrial Hygiene and Toxicology (4th Edn), Volume 2, Part D, Toxicology.</i> Edited by G. D. CLAYTON and F. E. CLAYTON
H. A. WALDRON	394	<i>Blood-borne Diseases in the Workplace. Pocket Guide.</i> By C. H. COLLINS
F. J. C. ROE	395	<i>Environmental Health Criteria No. 153: Carbaryl.</i> WHO International Programme on Chemical Safety. World Health Organization
F. J. C. ROE	396	<i>Environmental Health Criteria 154: Acetonitrile and Environmental Health Criteria 157: Hydroquinone.</i> World Health Organization
H. MOSELEY	397	<i>NCRP Report No. 119. A Practical Guide to the Determination of Human Exposure to Radiofrequency Fields</i>

NUMBER 4

H. A. WALDRON	399	Obituary: Ronald Epey Lane, 1897-1995
J. W. CHERRIE, H. GIBSON, C. MCINTOSH, W. M. MACLAREN and G. LYNCH	403	Exposure to fine airborne fibrous dust amongst processors of <i>para</i> -aramid
M. HERY, G. HECHT, J. M. GERBER, J. C. GENDRE, G. HUBERT and J. REBUFFAUD	427	Exposure to chloramines in the atmosphere of indoor swimming pools
N. PLATO, G. TORNLING, C. HOGSTEDT and S. KRANTZ	441	An index of past asbestos exposure as applied to car and bus mechanics
L. LUNDGREN, S. LUNDSTRÖM, I. LASZLO and B. WESTLING	455	Modern fibre counting—a technique with the phase-contrast microscope on-line to a Macintosh computer
S. M. RAPPAPORT, R. H. LYLES and L. L. KUPPER	469	An exposure-assessment strategy accounting for within- and between-worker sources of variability
F. NIELSEN, E. OLSEN and A. FREDENSLUND	497	Prediction of isothermal evaporation rates of pure volatile organic compounds in occupational environments—a theoretical approach based on laminar boundary layer theory
F. NIELSEN and E. OLSEN	513	On the prediction of evaporation rates—with special emphasis on aqueous solutions
Letter to the Editor M. MELDRUM and T. L. OGDEN	523	Classification of man-made mineral fibre
Book Reviews C. A. VEYS	527	<i>Cancer and Workplace Chemicals.</i> By J. H. DUFFUS
F. J. C. ROE	528	<i>Environmental Health Criteria 156: Hexachlorobutadiene.</i> World Health Organization
News Item	530	Occupational Hygiene '96—Promoting a Healthy Working Environment

Contents

NUMBER 5

W. H. WALTON	531	Obituary: Charles Norman Davies, 1910–1994
B. FLETCHER	535	The design of local exhaust ventilation hoods for grinding wheels
L. PRELLER, D. HEEDERIK, H. KROMHOUT, J. S. M. BOLEIJ and M. J. M. TIELEN	545	Determinants of dust and endotoxin exposure of pig farmers: development of a control strategy using empirical modelling
M. J. A. VAN TONGEREN, R. D. BARKER, K. GARDINER, J. M. HARRIS, K. M. VENABLES, A. J. NEWMAN TAYLOR and J. M. HARRINGTON	559	Exposure to acid anhydrides in three resin and one cushioned flooring manufacturing plants
M. R. FLYNN, K. AHN and C. T. MILLER	573	Three-dimensional finite-element simulation of a turbulent push-pull ventilation system
B. JÄRVHOLM, G. LJUNGKVIST, B. LAVENIUS, N. RODIN and C. PETERSON	591	Acetic aldehyde and formaldehyde in cutting fluids and their relation to irritant symptoms
R. C. BROWN, M. A. HEMINGWAY, D. WAKE and J. THOMPSON	603	Field trials of an electret-based passive dust sampler in metal-processing industries
Short Communication E. HIRST, P. H. KAYE and J. A. HOSKINS	623	Potential for recognition of airborne asbestos fibres from spatial laser scattering profiles

MMF: Assessment of Toxicity of Man-made Fibres. Papers from a workshop held in Paris, France, 3–4 February 1994

J. BIGNON, P. BROCHARD and G. GIBBS	633	Foreword
T. W. HESTERBERG, W. C. MILLER, PH. THEVENAZ and R. ANDERSON	637	Chronic inhalation studies of man-made vitreous fibres: characterization of fibres in the exposure aerosol and lungs
H. MUHLE and B. BELLMANN	655	Biopersistence of man-made vitreous fibres
D. M. BERNSTEIN, PH. THEVENAZ, H. FLEISSNER, R. ANDERSON, T. W. HESTERBERG and R. MAST	661	Evaluation of the oncogenic potential of man-made vitreous fibres: the inhalation model
T. SCHNEIDER	673	Physical characterization of MMVF for risk assessment
D. B. WARHEIT	691	A review of inhalation toxicology studies with <i>para</i> -aramid fibrils
C. G. COLLIER, K. J. MORRIS, K. A. LAUNDER, J. A. HUMPHREYS, A. MORGAN, W. EASTES and S. TOWNSEND	699	The durability and distribution of glass fibres in the rat following intra-peritoneal injection
R. C. BROWN, J. A. HOSKINS and L. R. GLASS	705	The <i>in vivo</i> biological activity of ceramic fibres
K. RÖDELSPERGER and H.-J. WOITOWITZ	715	Airborne fibre concentrations and lung burden compared to the tumour response in rats and humans exposed to asbestos

Contents

E. E. McCONNELL	727	Advantages and limits of <i>in vivo</i> screening tests
P. BROCHARD and J. BIGNON	737	Proposal of a tiered approach to assessing and classifying the health risk of exposure to fibres
A. MORGAN	747	Deposition of inhaled asbestos and man-made mineral fibres in the respiratory tract
C. E. ROSSITER and J. R. CHASE	759	Statistical analysis of results of carcinogenicity studies of synthetic vitreous fibres at Research and Consulting Company, Geneva
F. POTT	771	Detection of mineral fibre carcinogenicity with the intra-peritoneal test—recent results and their validity
News Item	781	Inhaled Particles VIII. Occupational and Environmental Implications for Human Health

NUMBER 6

D. NORBÄCK, G. WIESLANDER and C. EDLING	783	Occupational exposure to volatile organic compounds (VOCs), and other air pollutants from the indoor application of water-based plants
P. S. VINZENTS, Y. THOMASSEN and S. HETLAND	795	A method for establishing tentative occupational exposure limits for inhalable dust
D. J. SMITH, A. J. ALLSOPP and R. J. PETHYBRIDGE	801	Clothing as a dynamic system presenting problems in predicting performance
I. HOLMÉR and H. NILSSON	809	Heated manikins as a tool for evaluating clothing
M. J. NIEUWENHUIJSEN, S. GORDON, J. M. HARRIS, R. D. TEE, K. M. VENABLES and A. J. NEWMAN-TAYLOR	819	Variation in rat urinary aeroallergen levels explained by differences in site, task and exposure group
K. C. PARSONS	827	Computer models as tools for evaluating clothing risks and controls
J.-P. ZOCK, D. HEEDERIK, and H. KROMHOUT	841	Exposure to dust, endotoxin and micro-organisms in the potato processing industry
K. LUOTO, M. HOLOPAINEN and K. SAVOLAINEN	855	Durability of man-made vitreous fibres as assessed by dissolution of silicon, iron and aluminium in rat alveolar macrophages
Book Reviews		
R. J. SHERWOOD	869	<i>Occupational Health and Preventive Medicine. Bulletin of the WHO Collaborating Center for Occupational Health, Shanghai, China. Volume 3.</i> Edited by LU PEI-LIAN, YE TING-TING and FU HUA
H. A. WALDRON	870	<i>Patty's Industrial Hygiene and Toxicology (4th Edn), Volume II, Part E.</i> Edited by G. D. CLAYTON and F. E. CLAYTON
P. DEWELL	873	<i>HYGINIST: A Computer Program for the Lognormal Evaluation of Air Exposure Data Vers. 2.12.</i> By T. M. L. SCHEFFERS